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Research Article

Social policies, separation, and second birth spacing in Western Europe

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Abstract

OBJECTIVE
This paper studies postseparation fertility behavior. The aim is to investigate whether, and if so how, separation affects second birth spacing in Western European countries.

METHODS
This analysis makes use of rich survey data from Belgium, France, Germany, Italy, Spain, and the United Kingdom, as well as from Finnish register data. We thus cover the behavior of a large proportion of the population of Western Europe. We also use descriptive measures, such as Kaplan–Meier survival functions and cumulative incidence curves. In the multivariate analysis, we employ event history modeling to show how education relates to postseparation fertility behavior.

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RESULTS
There are large differences in postseparation fertility behavior across European countries. For Spain and Italy, we find that only a negligibly small proportion of the population have a second child after separating from the other parent of the firstborn child. The countries with the highest proportion of second children with a new partner are the United Kingdom, Germany, and Finland. In all countries, separation after first birth leads to a sharp increase in the birth interval between first and second births.

CONTRIBUTION
Our study is a contribution to the demographic literature that aims at understanding birth spacing patterns in Western Europe. Furthermore, we draw attention to the role of postseparation policies in explaining country differences in fertility behavior in contemporary societies.

1. Introduction

There is a large body of literature that examines the role of social policies in fertility behavior in contemporary societies (e.g., Castles 2003; Gauthier 2007; McDonald 2000; Kalwij 2010; Wood 2016). Great emphasis has been laid on the effect of childcare services, such as the availability of places in public childcare institutions (e.g., Kravdal 1996). The role of parental leave regulations for fertility transition and birth spacing has also been examined (e.g., Duvander, Lappegard, and Andersson 2010). In the same vein, comparative welfare state research has highlighted the role of childcare and parental leave in explaining country differences in total fertility. A common view in this context is that many of the fertility differences in contemporary Europe can be explained by country differences in family and work reconciliation policies (Castles 2003). Countries that are unable to reform their family policies and instead adhere to the "housewife model" would experience low birth rates (Esping-Andersen 1999).

Although this literature has greatly advanced our understanding of social policies and fertility changes, it remains incomplete to some extent. Comparative welfare state research has largely focused on work and family reconciliation policies, while the rules and regulations that govern postseparation behavior have not been considered with the same degree of enthusiasm. In the demographic literature, a large body of research exists that examines postseparation behavior. Here, however, country differences in behavior are rarely explained by social policies. With our paper, we seek to bridge these two strands of literature by exploring the relationship between postseparation policies and postseparation fertility behavior.

Our study relates to the large body of demographic literature that deals with the fertility behavior of stepfamilies in individual countries (Beaujouan and Wiles-Portier 2011; Heintz-Martin, Le Bourdais, and Hamplová 2014; Henz 2002; Holland and Thomson 2011; Meggiolaro and Ongaro 2010; Vikat, Thomson, and Hoem 1999) and in a crossnational context (see, e.g., Henz and Thomson 2005; Thomson 2004; Vikat, Thomson, and Prskawetz 2004). It is also linked to research that has investigated multi-partnered fertility – that is, the question of whether men and women have children with different partners across their life courses (Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007a, 2007b; Manlove et al. 2008; Scott et al. 2013; Thomson et al.2014). Unlike prior studies, our paper focuses specifically on second birth spacing and, as a corollary, the transition to the second biological child after union disruption. We focus on second birth behavior because having a second child is quite a regular and predictable event. Most people in Western Europe aspire to have two children (Testa 2007). Those who have a second child tend to do so around two to four years after the first birth. There are several reasons given in the literature for this close spacing of first and second children. Ní Bhrolcháin (1986) argues that close spacing of births is an efficient way of organizing the fertility career because it minimizes fertility-related employment interruptions. Others refer to the "sibling hypothesis" to explain a rapid progression to the second child (Griffith, Koo, and Suchindran 1985; Henz 2002). According to this hypothesis, one of the underlying motivations in industrialized societies for having two children is to provide a companion for the firstborn child. A close spacing of births guarantees that the two first children can grow up and play together during their childhood years and have a close relationship during their teenage years and into adulthood.

Whatever the reasons for the close spacing of first and second children may be, separation after first birth has considerable consequences for the fertility careers of individuals. First-time mothers and fathers who experience union dissolution after a first birth see not only a breakdown of their partnership, but also a potential disruption of their fertility careers. The questions of how union dissolution influences second birth spacing and how the impact varies by education and national policy context are the main themes of this investigation. Data for our analysis comes from recent survey and register data for Belgium, Finland, France, Germany, Italy, Spain, and the United Kingdom. We thus focus on Western European countries and do not (with the exception of eastern Germany) study fertility behavior in postsocialist countries. The reason for this is that the particularities of fertility behavior in Central and Eastern European countries after the demise of their socialist systems would require a separate investigation beyond the scope of this paper.

2. Prior research

There is extensive research on individual European countries (Beaujouan and Wiles-Portier 2011; Heintz-Martin et al. 2014; Henz 2002; Holland and Thomson 2011; Meggiolaro and Ongaro 2010; Vikat et al. 1999), as well as work done from a comparative perspective (see, e.g., Henz and Thomson 2005; Thomson 2004; Vikat et al. 2004), that has addressed the fertility behavior of stepfamilies. In this type of research, stepfamilies are commonly defined as a family formed by a man and a woman who live in a coresidential union with a child or with children where at least one of the partners has children from a prior partnership. This research examines whether individuals in stepfamilies behave differently from individuals in families that have only shared biological children. One popular hypothesis is that the fertility of stepfamilies is elevated because couples try to cement their (new) relationship with a common child (Thomson 2004: 118). This union commitment explains why stepfamilies generally have an above-average family size of three or more children (Holland and Thomson 2011; Kreyenfeld and Martin 2011; Martin 2008). Stepfamily research has greatly advanced our understanding of family diversity in contemporary societies. However, the disadvantage of this approach is that it starts the observation with the formation of a stepfamily. One consequence is that nonunion births are commonly disregarded.

A related body of literature has approached the issue by using the individual fertility career as a point of departure. Carlson and Furstenberg (2006) coined the term "multi-partnered fertility" in this context to illustrate the fact that men and women may have children with different partners across their life courses. This strand of research has a strong motivation rooted in social policy concerns over the inability of men with low levels of education to pay child support for children they have fathered with different women. Empirical evidence from the United States has indeed shown a strong negative educational gradient in multi-partnered fertility. Black men and women with less education, as well as those who have their first children in their teenage years, are prone to have children with different partners (Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007a, 2007b; Manlove et al. 2008; Scott et al. 2013). Evidence from Europe on this topic remains sparse, but a comparative study for Australia, the United States, Norway, and Sweden which addressed the likelihood of women having a second or third child with a new parent also finds a strong and negative educational gradient in multi-partnered fertility in the Nordic countries of Europe (Thomson et al. 2014). Gałęzewska (2016) used data for Estonia, France, Norway, Russia, and the United Kingdom to study the fertility transition after the dissolution of the first fertile union. She finds some educational differences for Estonia, but no significant differences by level of education for the other countries.

Our study is closely linked to the above-mentioned studies, but unlike prior research we focus more narrowly on the spacing between the first and second children. We take a life course perspective in order to gain a better understanding of the consequences of separation for the timing and spacing of subsequent life course events. More specifically, we ask whether separation has affected second birth spacing across Europe and if so how this pattern varies by education and social policy context.

3. Social policy, demographic context, and hypotheses

3.1 Social policy context

Social policy regulations may favor one family form over another by defining the benefits and constraints involved in leaving the parental home, moving in with a partner, getting married, or having children (Gauthier 2007). In this vein, authors of comparative welfare state literature have emphasized the role of family policies, in particular the availability of childcare and parental leave regulations, for family dynamics in Europe (Castles 2003; McDonald 2000; Neyer 2003; Thévenon 2011). The term "familialism" describes the underpinning of social policies that assign "maximum care duties" to the family (Esping-Andersen 1999). Typical for familialistic regimes are low maternal full-time employment rates, a gendered division of care work, and the economic dependence of women with children on the male breadwinner. Defamilialization describes social policies that work in the opposite direction and enable both women and men to be employed and economically independent. Gender equality in the labor market and a fair division of family duties – typical for a defamilializing system – are expected to be conducive to fertility in advanced economies. Conversely, familialistic regimes are viewed as being counterproductive for fertility, because they overburden the family with care obligations (Esping-Andersen 1999).

Familialism also determines the family behavior after separation and divorce. In general, union dissolution has the most consequences in familialistic welfare state regimes, where the gender division of household chores was the most unequal before divorce and separation (Burkhauser et al. 1991; Andreß and Bröckel 2007; Bröckel and Andreß 2015). Because public childcare is unavailable and because women have often been absent from the labor market for a significant amount of time, they have limited possibilities to enter the labor market after the breakdown of a union. Countries differ, however, in respect of whether they expect the economically weaker party to be gainfully employed or whether he or she can rely on spousal support. These policies buffer the negative consequences of a marital breakdown for the weaker party in a

familialistic regime. Spousal support may, however, impose a significant economic burden on the economically stronger party, which may inhibit his or her ability to form a family with a new partner. It may also discourage repartnering after divorce for the person who receives the payments, because spousal support can be curbed when a new coresidential union is formed.

In the past, most countries had divorce laws in place that provided support for the financially weaker ex-spouse.[13] However, there are large differences across Western Europe. In addition, many countries have reformed their divorce laws recently, enabling a swifter divorce process and reducing access to spousal support.

Germany used to be among the countries with the most generous maintenance regulations for the "caring" ex-spouse. Divorced women (and in theory also men) were generally not expected to be employed full-time until the youngest child reached age 16 (Lenze 2014). A reform in 2008 introduced the concept of individual responsibility. The legal requirement to pay spousal maintenance to the caring ex-partner is limited now until the youngest child is age 3. However, legislation is vague and spousal support for divorcees with older children can still be granted based on individual court cases. If no employment can be found despite intensive search, divorcees are usually granted spousal support. Unlike in Finland (see next paragraph), divorcees do not have immediate access to social benefits. The assumption is that the marital bond extends beyond the breakdown of a union; in the case of need, the ex-spouse must step in and provide support.

Finland is positioned at the other end of the spectrum, with divorce basically considered a clean break with very limited financial obligations between former spouses. In principle, Finnish law provides the possibility to claim maintenance after divorce. However, such claims do not materialize because of high female employment rates. In addition, social benefits are considered in the calculation of potential payments, so that spousal maintenance does not come into effect. This is in stark contrast to Germany, where spousal support extends beyond marital breakdown.

As in Finland, the guiding principle in the United Kingdom is personal responsibility after divorce.[14] The difference is, however, that social security benefits the claimant could receive are not taken into account in determining maintenance. Furthermore, English and Welsh divorce law has been described as very generous to the

[13] Apart from spousal support, there are also differences in other postseparation regulations. All countries considered in our investigation have some regulations in place that define child support payments for the nonresident parent. However, countries differ in their willingness to enforce these regulations (see Table A-3 in the Appendix). Some differences also exist in respect to physical custody regulations, with Belgium being at the forefront of shared physical custody (see Table A-4 in the Appendix). However, in the other countries the proportion of postseparation families practicing shared physical custody is much lower. In most countries children reside with the mother after separation.

[14] In the United Kingdom, all four national regions have their own divorce laws. Since we cannot describe all of them in detail, we concentrate on England and Wales.

economically weaker spouse, and only modest pressure is put on the receiving ex-spouse to find employment (Klett-Davies 2016). It is only recently that court practice has changed, with the expectation that women who had previously not been employed or had worked reduced hours should increase their employment after divorce.

The situation is ambivalent in France. It is the one country that still holds on to the principle of fault-based divorce. The partner who is claimed to be guilty for the breakdown of the marriage may be excluded from receiving spousal alimony. This seemingly harsh and outdated regulation is, however, not very significant. Fault-based divorce applies to only a very small proportion of all divorces. Moreover, spousal alimony, in contrast to child alimony, is infrequent and, if granted, very low. According to Boisson and Wisnia-Weill (2012), spousal alimony was granted in just 10% of all divorces. As in Finland, spouses are assumed to be economically independent before and after divorce.

A similar approach is taken by the divorce law of Belgium. It was only in 2007 that fault-based divorce was abolished. Although it is possible to claim spousal maintenance, individual responsibility is emphasized in Belgian law. As female full-time employment rates are generally high, the expectation is that both parties will be employed after divorce. One aspect that distinguishes Belgium from the other countries is the residence of the children. Unlike in the other countries, children do not necessarily live with the mother after divorce (see Table A-4 in the Appendix). Instead, shared physical custody is very widespread. As a consequence of the more equal division of care after divorce, divorcees cannot claim spousal support easily on the grounds of their care obligations.

The case is very different for Spain and Italy. Here, female employment rates are comparatively low, a strongly gendered division of work exists, and therefore the possibilities for mothers to be economically independent are limited. Despite being familialistic in nature, there is no functioning system of spousal support that buffers the economic consequences of a marital breakdown for the weaker party. Divorced women are more likely than divorced men to stay in the family home after divorce. However, only about 12% of divorcees in Spain and 20% in Italy receive financial support from their ex-partners (Instituto Nacional de Estadística (INE) 2013; ISTAT 2014). It is consistent with the principles of a familialistic regime to ameliorate the adverse consequences of divorce for the economically weaker party through spousal alimony payments. As this is not the case in Italy and Spain, divorce poses a significant economic risk for the weaker party (Ongaro, Mazzuco, and Meggiolaro 2009; Andreß et al. 2006). Economic dependence may hinder the weaker party from leaving a union and thus curbs the freedom to leave "potentially oppressive relationships" (Orloff 1993: 320). If people nevertheless decide to end a marriage, strict divorce laws that demand long separation periods are an obstacle to entering a new partnership and to having

children with a new partner. It was only in 2015 that Italy relaxed its regulations, and couples are now allowed to divorce after one year of separation in cases of mutual consent.

3.2 Demographic context

In addition to the pivotal role of institutional contexts, it is also vital to acknowledge that fertility decisions are embedded in the larger logic of the life course. The term "life course contingency" was coined in this context to highlight the path dependency of life course decisions (Hogan 1978). Prior life course events determine the subsequent life course. They may open up new behavioral options or close them. For postseparation fertility behavior, past decisions on whether to marry or cohabit can be influential for subsequent life course outcomes, because spousal support is commonly granted to divorcees only. The countries we consider for our investigation differ greatly in terms of marriage behavior and nonmarital childbearing. In Finland and France, a large proportion of births are out of wedlock. In Italy, only a smaller proportion of births are nonmarital. In 2012, this applied to 26% of all births (compared to 42% in Finland, 57% in France, and 48% in the United Kingdom) (EUROSTAT 2015). Nonmarital childbearing in Spain sky-rocketed to almost 40% in 2012. Germany is an interesting intermediate case because of the stark differences in nonmarital parenthood between eastern and western Germany: in 2012, more than 60% of all births were nonmarital in the east, compared to 28% in the west.

In order to understand postseparation birth behavior, it is particularly important to know about the separation and divorce patterns in a country. Unfortunately, there is a lack of suitable and comparable official indicators. Most statistical offices generate the crude divorce rate, but separations are not recorded in the vital registration system. Furthermore, the number and age of children are not systematically accounted for in the divorce statistics; if anything is recorded, it is only the number of children who are minors. As a consequence, we have no comparable data from the vital registration system to tell us at which point in the childbearing process separation or divorce occurs.

In the absence of comparable official data, Table 1 maps separation statistics that are based on our own calculations (the data source is explained in more detail in Section 4). The table includes data on Belgium, Finland, France, Italy, Spain, and the United Kingdom. Because of the stark differences in demographic behavior, figures for eastern and western Germany are reported separately. The table lists the probability of being separated from the other parent of the firstborn child. The process time is the age of the first child. All unions are included here, regardless of whether they were marital or nonmarital. Also people who had a child outside of any coresidential partnership are

included (they are coded as if they separated at the birth of the child). As depicted in this table, large differences in separation probabilities of parents exist across Western European countries. In Finland, eastern Germany, and the United Kingdom, about 15% of those men and women who had children were not in a union with the mother or father any longer when the first child was born. By the time the first child reached age 10, the proportion of separated parents had increased to nearly a quarter. In western Germany, France, and Belgium, only a small proportion of people have a first child outside a union. Separation probabilities increase thereafter. However, when the first child is 10 years old, between 10% and 15% of the parents are separated. In Southern Europe, the proportion is smaller: only 10% in Spain and 6% in Italy. From this, one must conclude that the proportion of the population which is subject to the risk of having a second child after separation differs greatly across countries.

Table 1: Proportion of women and men who had a first child and are separated, by age of first child and country[15]

Age of first child	Belgium	Finland	France	Germany (western)	Germany (eastern)	Italy	Spain	United Kingdom
Birth of child	7%	14%	5%	8%	16%	5%	8%	16%
Age 5	10%	17%	8%	11%	20%	5%	9%	20%
Age 10	13%	23%	12%	14%	27%	6%	10%	24%
Individuals	1,844	20,488	2,054	2,134	535	7,028	1,666	13,576
Separations	268	5,313	269	309	164	426	141	3,224

Notes: The sample includes women and men who had their first child in 1990 or later. For Germany only cohorts born 1971–1973 and for Finland only cohorts born 1969–1972 were selected for this representation. The Spanish sample includes women only. Results for Belgium, Germany, and France were weighted.

3.3 Hypotheses

The following investigation explores how separation shapes second birth behavior in Belgium, Finland, France, Germany, and the United Kingdom. We treat eastern and western Germany separately because of the large differences in marriage behavior, women's work patterns, and separation probabilities of one-child parents.

The most important reason why we expect to find country differences in the prevalence of second births in new unions is the country differences in separation behavior. For Italy and Spain, we expect to observe a small proportion of second children in new unions. People do not enter the risk set of having a child with a new partner because they rarely dissolve a union. By this logic, France, Belgium, and

[15] Table A-2 in the Appendix complements this table by providing estimates of the competing risk of separation and having a second child. It supports the perspective of Table 1 in that many couples in the United Kingdom, Finland, and eastern Germany separate before having a second child.

western Germany hold an intermediate position, while the United Kingdom, Finland, and eastern Germany are extreme cases, with high proportions of people at risk of having a child in a new union.

Beyond these demographics, social policies have an impact on postseparation behavior. They may do so by inhibiting divorce, as is the case in Italy and Spain. They may also affect repartnering, as is the case in Germany and England and Wales, where the weaker partner loses spousal support when they enter a new coresidential union, while the stronger party is burdened with economic payments to the ex-partner. Countries such as Finland, Belgium, and France, which support women's (and men's) economic independence, generally offer a clear break after divorce that facilitates entrance into a new partnership and the transition to a new child in a new union.

Apart from the country differences, we also examine differences by level of education. Here we test whether the findings for the United States can be transferred to European countries. For the United States, a strong negative educational gradient in multi-partnered fertility has been reported in various studies. This has raised a social policy concern, in particular because poorly educated men were often unable to pay alimony after separation and divorce. Unfortunately, this part of the investigation must be limited to Finland, western Germany, and the United Kingdom, because the sample size for the other countries is too small for an in-depth analysis by educational level.

4. Data and method

To answer our research questions, we use recent survey data for Belgium, France, Germany, Italy, Spain, and the United Kingdom (see Table A-1 in the Appendix for an overview). For Finland, we use data drawn from national population registers. The analyses were conducted separately for each country by the respective national representatives. However, we have tried to harmonize the analyses as much as possible by providing a data manual that describes in detail how union and fertility histories were cleaned and how missing information was imputed in the different national data sets (see core code in the Online Appendix). Due to the different sources of data available to us, some country particularities persisted. For example, the Spanish sample includes female respondents only.

Our sample is limited to respondents who have at least one biological child. Respondents with multiple births were deleted from the sample. Because our interest is in more recent behavior, we limited the investigation to men and women who had their first children after 1990. For Germany and Finland, where the data follows a cohort design, we have restricted the analysis to women and men born around 1970 (1969–1973 for Finland and 1971–1973 for Germany). Our key interest is in the birth spacing

between first and second births and whether a person has a second child in a new union. For Germany and Finland, it is possible to link children and unions and to clearly identify whether a second child is from a new parent who is not the father or mother of the firstborn child. As this information is not available from the other data sources, however, we decided to harmonize the procedure for all countries. We follow a strategy that is commonly applied in stepfamily research (Holland and Thomson 2011). Accordingly, we assume that the second child is with a new partner if the woman or man experienced a separation or divorce between the births of the first and second children or entered a new coresidential union during this time. Some couples may have children outside of any union and only subsequently form a joint household. Our strategy would erroneously classify the second children as births with a new partner. To reduce this potential misclassification, we assume that a person who moved in with a partner within six months of the first birth had already been living with that particular partner at first birth. Some women and men may have first and second children as single parents. Others may be single at first birth and have the second child in a coresidential union. In these cases we assume that the children are from different partners.

As a first step, an extensive descriptive analysis presents easily accessible measures which depict the interrelation of separation and second birth spacing patterns. We calculate the mean differences between first and second births and distinguish the cases by whether the second child is in an ongoing union or not. Furthermore, we employ cumulative incidence curves (Gooley et al. 1999) to estimate the probabilities of having a second child in an ongoing union versus the probabilities of having a child in a new union. The multivariate analysis consists of an event history model that studies the determinants of second birth progressions. The key independent variable is the union status. We distinguish episodes in "ongoing unions," in the status of being "single," and episodes in "new unions." People who are still partnered with the same person as when the first child was born are classified as ongoing unions. People who no longer live with the same person as when the first child was born are assumed to be in a new union. The process time in our model is the age of the first child modeled as a piecewise-constant function. We also control for the parent's age at first birth (categorized) and sex. Furthermore, we include a categorical variable for highest level of education achieved up to the date of the interview. We distinguish low education (ISCED97 1–2), medium education (ISCED97 3–4), and high education (ISCED97 5–6). Table 2 provides the number of occurrences and exposures for the different countries and the respective variables. Note the low exposure population in a new union for Italy and Spain.

Table 2: Occurrences (occ.) and exposures (% exp.) for the multivariate model (see Table 3)

	Belgium		France		Germany (western)		Germany (eastern)	
	Occ.	% exp.	Occ.	% exp.	Occ.	% exp.	Occ.	% exp.
Age of first child								
Age 0–1	386	39	284	46	492	41	80	32
Age 2–3	540	21	759	26	1,005	24	165	23
Age 4–5	143	12	245	12	345	13	100	15
Age 6–7	38	8	82	7	115	8	58	11
Age 8–9	23	6	27	4	52	5	30	7
Age 10 and older	9	13	5	5	53	8	17	12
Respondents' age at first birth								
Age 15–21	95	7	143	9	451	23	136	29
Age 22–23	114	10	151	10	272	13	60	14
Age 24–25	160	13	244	15	306	14	70	16
Age 26–29	445	34	516	34	558	27	109	26
Age 30–34	269	24	275	22	400	18	67	13
Age 35 and older	66	12	73	10	75	5	8	2
Education								
Low	221	22	252	18	339	16	36	6
Medium	364	40	659	51	1,118	58	278	71
High	564	38	491	31	605	26	136	22
Union status								
Single	51	11	61	10	79	12	34	20
Ongoing union	1,030	83	1,248	85	1,750	77	317	67
New union	68	7	93	5	233	11	99	14
Gender								
Male	525	44	611	47	736	37	178	38
Female	624	56	791	53	1326	63	272	62
Total	1,149	100	1,402	100	2,062	100	450	100

Table 2: (Continued)

	Finland		Italy		United Kingdom		Spain	
	Occ.	% exp.	Occ.	% exp.	Occ.	% exp.	Occ.	% exp.
Age of first child								
Age 0–1	5,050	42	701	36	2,541	40	166	38
Age 2–3	6,969	22	1,682	25	3,931	23	347	26
Age 4–5	1,878	12	1,001	14	1,319	12	212	15
Age 6–7	731	8	354	9	498	8	92	9
Age 8–9	365	6	179	6	200	6	29	6
Age 10 and older	415	9	112	10	165	11	21	6
Age at first birth								
Age 15–21	2,259	18	319	8	1,839	20	135	14
Age 22–23	1,871	12	341	8	916	9	105	10
Age 24–25	2,336	14	473	11	1,076	11	123	13
Age 26–29	4,945	31	1,391	32	2,250	24	290	31
Age 30–34	3,537	21	1,211	32	1,888	23	192	24
Age 35 and older	460	4	294	10	685	14	22	7
Education								
Low	2,177	19	1,679	42	1,585	19	288	33
Medium	6,100	42	1,822	46	3,727	45	202	27
High	7,131	39	528	12	3,342	36	289	30
Union status								
Single	973	20	40	4	729	19	23	6
Ongoing union	12,156	66	3,897	94	7,078	73	796	89
New union	2,279	14	92	2	847	9	48	5
Gender								
Male	7,117	45	1,871	45	3,361	40	–	–
Female	8,291	55	2,158	55	5,293	60	867	100
Total	15,408	100	4,029	100	8,654	100	867	100

5. Results

5.1 Separation and birth spacing

Table 3 displays the mean difference between first and second births by whether the second child is with a new parent or not. For individuals who stay partnered with the parent of the first child, it is about three years. There is some country variation, with Finland and Belgium displaying very narrow birth intervals of less than three years on average. For the other countries, mean differences between the first two births are around or a bit higher than three years. Italy and eastern Germany are notable exceptions in this comparison, with a mean age difference between first and second children of more than four years. For all countries, separation leads to increased birth intervals; compared to people in ongoing unions, the duration between first and second children is about one and a half times to twice as long. People who had either the first

or the second child as a single person hold an intermediate position. They space their births wider apart than couples who remain partnered to the parent of the firstborn child. However, on average they space their births closer than people who have a second child in a new union.

Table 3: Mean difference between first and second children in years (standard error in parenthesis), only women and men who had at least two children at interview

	First and second children in same union	First and second children in different unions		
	All	Single births	New union	All
Belgium	2.78	3.55	6.90	5.46
	(0.05)	(0.42)	(0.41)	(0.33)
Finland	2.84	4.18	5.17	4.88
	(0.02)	(0.11)	(0.07)	(0.06)
France	3.18	3.93	5.49	4.98
	(0.45)	(0.38)	(0.27)	(0.23)
Germany (western)	3.27	4.46	6.60	6.07
	(0.05)	(0.50)	(0.42)	(0.35)
Germany (eastern)	4.07	4.80	6.43	6.19
	(0.19)	(0.56)	(0.48)	(0.38)
Italy	4.08	4.19	6.43	5.80
	(0.04)	(0.53)	(0.41)	(0.35)
Spain	3.87	3.38	5.44	4.84
	(0.09)	(0.43)	(0.41)	(0.34)
United Kingdom	2.99	3.88	5.59	4.88
	(0.02)	(0.11)	(0.12)	(0.09)

Notes: The sample includes women and men who had their first child in 1990 or later. For Germany only cohorts born 1971–1973 and for Finland only cohorts born 1969–1972 were selected for this representation. The Spanish sample includes women only. Results for Belgium, Germany, and France were weighted.

These simple descriptive statistics as presented in Table 3 are calculated for respondents who had at least two children, and they do not account for possible censoring. Because our focus of analysis is on recent birth behavior, this aspect is of utmost concern, as many of the more recent cohorts may separate or have a second child after the time of interview. A more appropriate method that takes censoring into account makes use of the cumulative incidence curves as displayed in Figure 1. These give the probability of having a second child depending on whether the second child is in an ongoing union or not. Note that single births are grouped under "new union" here.

Figure 1 reveals large differences in the likelihood that second children are in a new union. In Finland, a large proportion of second children are born in a new union. Among the people who have a second child, almost 20% had this second child in a new union ten years after the first birth. In Germany and the United Kingdom, the likelihood of having a second child in a new union is lower. But even in these countries a substantial proportion of the population have their first two children in different unions

(assumed to be with different partners). For Germany, behavior in the eastern and western parts of the country differs greatly. Multi-partnered fertility is much more common in eastern than in western Germany. For Belgium and France, despite a high progression rate to the second child in general, the likelihood of having a second child with a new partner is low. Apparently, couples usually have a second child before separation. Spain and Italy stand apart from the rest of Europe. In these two Southern European countries, the likelihood of having a second child is lower than elsewhere, and the likelihood of having a second child in a new union is negligible.

Figure 1: Cumulative incidence functions, outcome variables: 1) second child in ongoing union, 2) second child in new union (including single births)

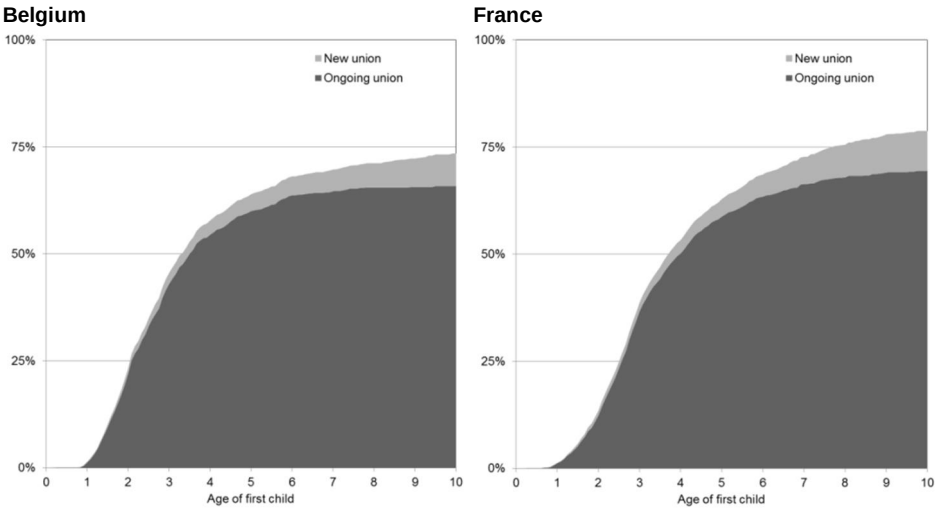


Figure 1: (Continued)

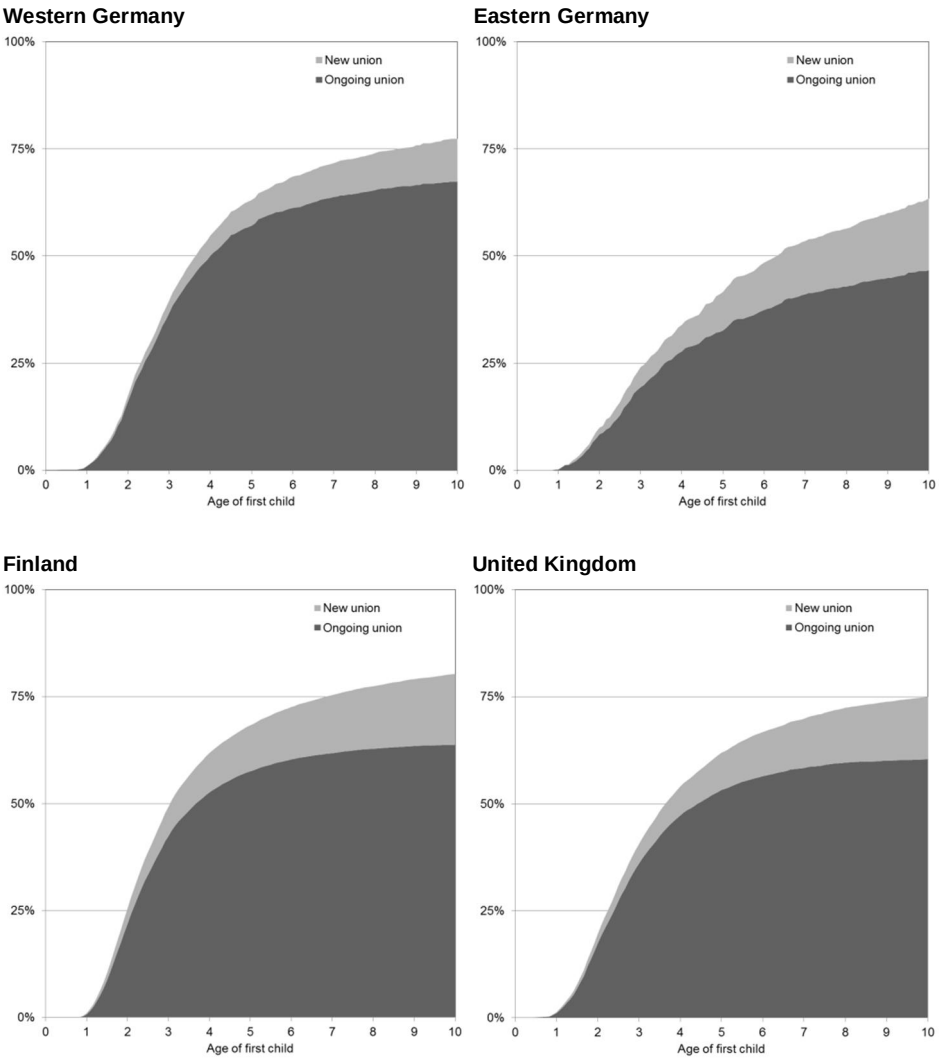
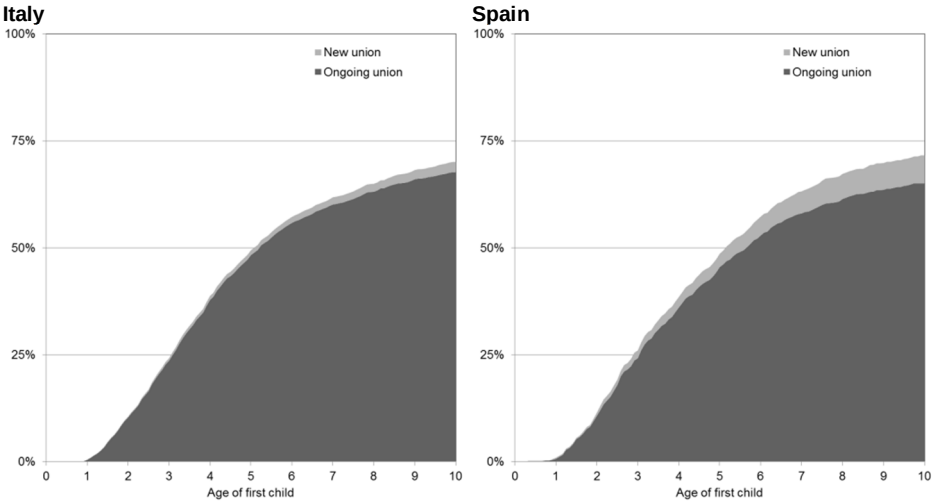


Figure 1: (Continued)



Notes: The sample includes women and men who had their first child in 1990 or later. For Germany only cohorts born 1971–1973 and for Finland only cohorts born 1969–1972 were selected for this representation. The Spanish sample includes women only. Results for Belgium, Germany, and France were weighted.

5.2 Multivariate results

The descriptive analysis has revealed large differences in the probability of having a second child in a new union across Europe. However, we have not yet accounted for the different chances of entering a new union. In the next step, we investigate the rate of having a second child by union status. In order to address this issue, we employ a multivariate analysis by estimating an event history model. The event of interest is second birth. The main process time is the duration since last birth. The baseline intensity is modeled with a piecewise constant specification. Together with standard control variables, such as education, sex, age at first birth, and child's age, we account for the union status.

The results are presented in Table 4. The control variables follow an expected pattern. We find that second birth rates decline with increasing age at first birth. Furthermore, for most of the countries we find that high education increases second birth rates, which is compatible with prior findings on second birth fertility in Western European countries (e.g., Kravdal 2001). The key variable in our model is the union status. In most countries, we do not find significant or large differences between individuals in ongoing and new unions. This also holds for Spain and Italy. In the

descriptive statistics, we have shown that second births in a new union are rather uncommon in Spain and Italy. Based on the multivariate analysis, we may conclude that the low prevalence of postseparation fertility in these countries is not due to the low risk of having a second child in a new union, but rather to the low chances of entering a new union after first birth. Once people enter a new union, second birth rates are comparable to those of couples in ongoing unions, even in these countries. In Finland, hazard rates for couples in new unions and in ongoing unions are almost the same. The case that stands apart from the rest is eastern Germany. Here we find significantly elevated second birth risks in a new union. For people in a new union, second birth risks increase by 47% compared to people in an ongoing union. This result mirrors those of prior studies, showing a high degree of family diversity in eastern Germany (Kreyenfeld, Konietzka, and Heintz-Martin 2016). Although Germany is a familialistic regime, eastern Germans behave more like Finns, for whom separation and divorce are not a great hindrance to entering a new partnership and having a child with a new partner.

Table 4: Results from piecewise constant event history model: Relative risks of second birth

	Belgium	France	Western Germany	Eastern Germany	Finland	United Kingdom	Italy	Spain
Age at first birth								
Age 15–21	1	1	1	1	1	1	1	1
Age 22–23	0.78	0.94	1.00	0.91	0.96**	0.90***	0.98	1.04
Age 24–25	0.78*	0.95	1.03	0.92	0.94***	0.85***	0.99	1.03
Age 26–29	0.76**	0.83*	0.91	0.80	0.88***	0.82***	0.96	0.94
Age 30–34	0.62***	0.68***	0.90	0.83	0.76***	0.72***	0.81***	0.80*
Age 35 and older	0.31***	0.39***	0.63***	0.65	0.56***	0.44***	0.58***	0.32***
Education								
Low	1	1	1	1	1	1	1	1
Medium	0.88	0.87	0.88	0.67**	1.10***	0.92***	1.04	0.91
High	1.47***	1.17	1.10	1.05	1.28***	1.05	1.23***	1.21**
Union status								
Ongoing union	1	1	1	1	1	1	1	1
Single	0.42***	0.36***	0.27***	0.35***	0.30***	0.36***	0.24***	0.36***
New union	1.10	1.08	0.95	1.46***	0.97**	1.02	1.07	0.96

Notes: Further control variables in model are age of first child and gender. *** p<0.01; ** p<0.05; * p<0.10.

5.3 Transition to second births in new unions (results from interaction models)

In the last step of our analysis, we investigate socioeconomic differences in the risks of having a second child in a new union. For this purpose we conducted an interaction of union status with level of education. These interaction models are restricted to western

Germany, the United Kingdom, and Finland, as only these countries provide the sample size for a refined analysis. We focus particularly on educational differences in the progression to a second child. This focus is motivated by prior studies showing large differences in multi-partnered fertility by education, in particular for the United States (Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007a, 2007b; Manlove et al. 2008; Scott et al. 2013; Thomson et al. 2014).

Table 5 displays the results from interaction models. The models were standardized for low education, in order to be able to gauge the educational gradient by union type. The table shows that the risk of having a second child in an ongoing union is positive for all countries. There is a negative educational gradient for single births in the United Kingdom and western Germany, but not in Finland. We also find country differences for the risk of having a second child in a new union. While we find a positive gradient in the case of Finland, there is a negative gradient in western Germany and no educational differences in the United Kingdom. Based on this evidence, we may conclude that the strong educational differences in multi-partnered fertility previously found in the United States do not easily transfer to European countries. At least in the case of second birth fertility, we do not find a consistent and strong negative educational gradient in the risk of having another child with a new partner.

Table 5: Results from piecewise constant event history model. Interaction of union status and education, standardized for low education. Relative risks of second birth

	Low	Medium	High
Western Germany			
Single	1	0.92	0.50***
Ongoing union	1	0.97	1.18
New union	1	0.63**	0.79
United Kingdom			
Single	1	0.74**	0.60***
Ongoing union	1	0.94	1.10
New union	1	0.97	0.93
Finland			
Single	1	0.85***	1.00
Ongoing union	1	1.17**	1.37***
New union	1	1.02	1.14***

Notes: Further control variables in model are age of first child, age at first birth, gender. *** p<0.01; ** p<0.05; * p<0.10.

6. Discussion and limitations

The aim of this paper was to contribute to the growing literature on multi-partnered fertility. While multi-partnered fertility in the United States has been explored extensively, less is known about the determinants of having children with different partners in Europe. Based on recent survey and register data for Western Europe, we examined progressions to the second child. Our guiding hypothesis was that familialism would result into low postseparation fertility. We indeed find that countries differ radically in the prevalence of postseparation births. However, patterns cannot always be explained by policy contexts. A substantial proportion of second births are in new unions in Germany and the United Kingdom, despite these countries having familialistic regimes. Belgium and France hold only an intermediate position, although they are widely regarded as conducive to the compatibility of work and family and emphasize economic independence before and after divorce. The reason for the relatively low prevalence of postseparation births in France and Belgium is that first and second births are closely spaced so that separation often occurs after the second child is born. In Southern Europe only a negligible proportion of the population have a second child with a new partner. The reason for the low likelihood of having a second child with a new partner in Italy and Spain is the low risk of dissolving a union and entering a new union. Conditional on entering a new union, the patterns for Italy and Spain are similar to those of other countries. This suggests that the low second birth fertility in Southern Europe may be explained by the social and normative barriers that hinder couples from dissolving unsatisfactory unions and entering new partnerships.

For demographic research, our results highlight the importance of union dissolution for fertility behavior. Prior studies have already illuminated the fact that separation and divorce are important to understand differences in national fertility rates. Our paper has more narrowly focused on the spacing of second births. Separation and divorce are not only relevant for understanding differences in higher-order births or total fertility; we have also shown that second birth spacing is greatly affected by separation and divorce, albeit to different degrees in the different countries that we have considered in our investigation.

In contrast to previous research from the United States, we find no consistent negative educational gradient in multi-partnered fertility. One reason may be that we focused on transition rates to the second child, whereas prior analysis often looked into total fertility (Beaujouan and Solaz 2013; Carlson and Furstenberg 2006) or analyzed fertility progressions to the next child in a competing risk framework (Thomson et al. 2014). Furthermore, differences may also stem from the different treatment of births in singlehood and births in unions. In our multivariate analysis, we separated births to single individuals from those to individuals in a new union. For the latter population,

we find elevated second birth rates for those with less education. Another reason may be that many previous studies focus on the United States. The results from this country may simply not be transferable to the European context.

While the strength of this paper is that it highlights the fact that postseparation policies are of growing importance to understanding family behavior, we must acknowledge that our paper is only a modest step toward a comprehensive understanding of the relationship between social policies, partnership, and fertility behavior after divorce and separation. We have discussed regulations on spousal support in some detail, but many other policies, such as child alimony or child custody, were not addressed in great detail. An important difficulty was also that regulations concerning spousal and child maintenance are only loosely regulated by law and are often defined in individual court cases. In addition, countries differ in how they enforce payments. Most countries have established systems to document childcare policies and parental leave regulations, but comprehensive statistics to document child or spousal support are missing in most countries, let alone comparable statistics at the EU level.

Another great limitation of this paper was the data. We used the more recent large-scale family surveys for our investigation. However, we had to make very simplistic assumptions for our investigation to identify multi-partnered fertility, because most of the survey data sets did not provide sufficient information to link children to partnerships. As in previous studies, we assumed here that children are from different partners if the respondent had seen a disruption of the union between first and second births, or was single at first birth and did not move in with a partner within six months of childbirth. This procedure might have greatly overestimated the share of births with a new partner, because living-apart-together arrangements may have been erroneously classified as new partnerships. Conversely, we have dropped unions from our investigation where respondents could not remember the start or end dates of their nonmarital unions or marriages (see code in the online Appendix). These people may be particularly prone to have children with different partners (Kreyenfeld and Bastin 2015), so we may have also underestimated the extent of multi-partnered fertility.

Beyond these obstacles to generating reliable family indicators, small sample sizes kept us from more detailed investigations by population subgroups. Most importantly, we were unable to examine gender differences due to small sample sizes. Prior studies have shown that social policies define the economic well-being of individuals after divorce and separation. The economic consequences of divorce and separation are commonly more severe in familialistic welfare states than in more defamilializing systems, and, most importantly, vary by gender. How the economic conditions that women and men are exposed to in the different countries of Europe vary, and how that affects their partnership and fertility behavior after separation, must be left to future research.

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Appendix

Table A-1: Data description

Belgium	Data comes from the Belgian Generations and Gender Survey (GGS). The GGS is intended to be a cross-European panel, with Belgium having its first wave realized in 2008–2010. The data includes the birth cohort 1928–1990 and totals 3,728 respondents (Vergauwen et al. 2015). The response rate for the survey was 41.9% (Lauwereys, Neels, and De Winter 2011). For this analysis, we have used data from Release 4.2. Data is censored at time of interview (2008–2009 or 2010).
Finland	We use data compiled at Statistics Finland through the linking of data from a longitudinal population register and registers of employment, educational qualifications, and vital events, and other register sources. The extract used in this study is taken from a 10% random sample of people born in 1940–1995 who had been in the country between 1970 and 2009 (permission number TK53-663-11). In this study, we include cohorts born in 1969–1972 with full histories of childbearing and coresidential partnerships between 1987 and 2009.
France	Data comes from the French Generations and Gender Survey. The survey was conducted in 2005 and included women and men aged 18 to 79. For our analysis, we restricted the sample to women and men who had at least one biological child in 1990 or later.
Germany	Data comes from the German Family Panel (pairfam), an annual panel survey. The first wave was conducted in 2008/2009 and included 12,402 respondents from the birth cohorts 1971–1973, 1981–1983, and 1991–1993. In 2009/2010, an eastern German subsample was added to the data which included an additional 1,489 respondents from eastern Germany of the cohorts 1971–1973 and 1981–1983 (Kreyenfeld et al. 2012). For this analysis, we have used data from Release 6.0. We included the birth cohorts 1971–1973 and 1981–1983 in the analysis. Data is censored in 2014 (or earlier if a person dropped out of the panel study).
Italy	Data comes from the Family and Social Subjects Survey, which was conducted in Italy in 2009 by the National Statistical Institute (ISTAT). The survey encompasses a representative sample at the national level of about 18,000 households, for a total of about 44,000 individuals. Detailed social and family information is provided for each household member; in particular, retrospective data on union and reproductive biographies is available. We limited the analysis to respondents who had given birth to a first child in 1990 or later.
Spain	Data comes from the Spanish Family and Values Survey 2006 (Fecundidad y valores en la España del siglo XXI), conducted by the Center for Sociological Research. It includes female respondents aged 15 and over, who participated in a face-to-face interview. We have restricted the analysis to women who had given birth to a child in 1990 or later.
United Kingdom	Data comes from the first wave of the Understanding Society project (2009/2010), a longitudinal panel data set which replaced the British Household Panel Survey. The data set includes about 50,000 individuals, men and women. The questionnaire covers a wide spectrum of individual and household information, including fertility and union history. The sample analyzed for this study covers individuals born between 1935 and 1993. Data quality analyses have shown that information about union formation and dissolution and fertility corresponds very closely to data from the Office for National Statistics United Kingdom (Hannemann and Kulu 2015; Kulu and Hannemann 2015). In the case of the United Kingdom data, details about marital unions and cohabitation spells were asked for in separate questionnaires. With regard to marital unions, the option of premarital cohabitation was given and used if applicable. Furthermore, for marriages the option of death of partner was provided as a possible marriage outcome. For cohabitations, only the end date of the cohabitation spell is available, not the reason.

Table A-2: Separation and second birth as competing events, results from cumulative incidence curves

	Belgium		Finland		France		Germany (western)	
	2nd birth	Separation	2nd birth	Separation	2nd birth	Separation	2nd birth	Separation
Age of first child	0%	7%	0%	14%	0%	5%	0%	9%
Age 0	61%	10%	60%	20%	60%	9%	58%	12%
Age 5	68%	12%	86%	21%	73%	10%	70%	13%
Age 10	1,844	1,844	20,488	20,488	2,054	2,054	2,353	2,353
Individuals	1,070	213	12,891	4,262	1,844	1,844	1,398	274
Events	1,070	213	12,891	4,262	1,844	1,844	1,398	274
	Germany (eastern)		**Italy**		**Spain**		**United Kingdom**	
	2nd birth	Separation	2nd birth	Separation	2nd birth	Separation	2nd birth	Separation
Age of first child	0%	16%	0%	5%	0%	8%	0%	16%
Age 0	36%	24%	48%	6%	46%	9%	53%	21%
Age 5	51%	27%	67%	6%	66%	9%	61%	22%
Age 10	535	535	7,028	7,028	1,666	1,666	13,576	13,576
Individuals	254	142	3,876	413	804	138	7,140	2,886
Events	254	142	3,876	413	804	138	7,140	2,886

Notes: The sample includes women and men who had their first child in 1990 or later. For Germany only cohorts born 1971–1973 and for Finland only cohorts born 1969–1972 were selected for this representation. The Spanish sample includes women only. Results for Belgium, Germany, and France were weighted.

Table A-3: Postseparation regulations on child maintenance, 2000

	Belgium	Finland	France	Germany	Italy	Spain	United Kingdom
Average child maintenance payment per child (mean), US$ PPP	219.70	139.50	152.40	183.60	n.a.	n.a.	244.80
Child maintenance as % of total income transfers	38.1	29.7	40.1	37.2	n.a.	n.a.	40.0
Percentage of lone parents receiving child maintenance	49.1	72.7	46.3	30.1	25.2	12.4	21.9

Source: OECD Family Database, table PF1.5.B and table PF1.5.C (estimations based on Luxembourg Income Study). http://www.oecd.org/els/family/database.htm.

Table A-4: Postseparation regulations and practice on custody and shared residence

	Belgium	Finland	France	Germany	Italy	Spain	United Kingdom
Regulations on custody of children	Since 1987 parents have had joint custody regardless of their marital status as long as biological paternity is confirmed. Joint custody persists after separation or divorce.	Since 1984 both parents have kept joint custody after divorce or separation. Since then unmarried fathers can be granted joint custody after birth if the mother agrees. If there is no agreement a court decision is possible.	In 1994 the possibility of joint custody for nonmarried parents was introduced as long as paternity was acknowledged; it persists after separation. The custody is shared whatever the child custody arrangements.	Since 1998 joint custody after divorce has been standard. From that time unmarried fathers have been eligible for custody after birth if the mother agrees. Since 2013 joint custody has also been possible against the mother's will through a court decision.	Until 2005 custody was mainly awarded to the mother after divorce. Since 2006 joint custody after divorce/ separation became standard.	Until divorce law reform in 2005 joint custody was possible but not common. In most cases mothers received sole custody (not in Catalan law, though, where joint custody was standard). Since then joint custody is standard, but both parents have to agree.	Joint custody persists after divorce. Unmarried fathers have automatically been granted parental responsibility if they are registered as the father of the child since 2003 (England and Wales), since 2006 (Scotland) and since 2002 (Northern Ireland).
Practice of joint custody after separation/ divorce	Not available.	In 2015 in 93% of cases both parents kept joint custody after separation/divorce. In 6% of cases the mother received sole custody.	In most cases.	In 2013 in 96% of divorces both parents kept joint custody.	In 2009 86% of all divorces resulted in joint custody. In 12% the mother received sole custody.	Joint custody has increased over time, from 10% in 2009 to 18% in 2013.	Not available.
Regulations on shared residence	Since divorce law reform in 2007 shared residence is regarded as the main residence.	Officially, children can be registered at only one place of residence.	In 2002 the option of shared residence was introduced. If one or both parents oppose, the court can order a probationary period of shared residence.	Officially, children can be registered at only one place of residence. However, shared parenting is possible and can be informally arranged or imposed by court order.	Not available.	Not available.	Not available.
Proportion of children living in shared residence after parental separation in %	2006: 27%–36% (only children aged 0–12).	2009: 3.3% 2015: 5.7%	2012: 20%	Around 4–5% (of separated parents with children who are minors).	Not available.	Not available.	2006/2007: 17%

Source: INE (2013); ISTAT (2014); Kindler and Walper (2016); National Institute for Health and Welfare (2016).